

## GEORGE BROCKWAY: THE FORGOTTEN CONSERVATIONIST

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George Brockway (1922 to 1965), probably best known within the scientific circles of this State for his research into tree growth in the arid zones of WA, was also a major contributor to the establishment and maintenance of the extensive system of Nature Reserves in the Central Wheatbelt region. As a conservationist he was concerned with protecting the fragile ecosystem of these drier areas, which he felt was directly threatened by agriculture expansion. Brockway, first as Forest Inspector of the Kalgoorlie Region and later as Supervisor of Inland Forests with the Forest Department, resisted repeated demands to release Crown Land.

When one considers the size of the Wheatbelt area and its varied composition it is difficult to make generalisations about why particular areas survived the encroachment of agriculture. There appears however, to be several considerations which dictated many of the reservations.

Firstly when the early settlers began to arrive they selected the most fertile land for agriculture. Rough terrain, poor soils and the presence of poisonous plants tended to deter selectors from many large areas. This was particularly so around Narrogin, where clearing of steeper slopes aggravated erosion. Many of the present reserves were then, simply vacant Crown land left after the settlers selection. They were almost exclusively of poor soil quality. A number of abandoned properties with high salinity problems were subsequently added to these areas.

The widespread, indiscriminate removal of trees by the early farmers had devastating results on the soil. This prompted Brockway to issue an 'Advice Sheet' to farmers in 1958. This was probably the first prescription for conservation in the wheatbelt region. Brockway (1958) suggested: "That prior to the commencement of clearing operations they (the settlers) should give serious consideration to the importance of maintaining in its natural state a fair proportion of existing timber. The many advantages provided by tree growth, i.e. fuel, timber, shade, shelter for stock and birds and the aesthetic appeal of trees in an otherwise featureless region cannot be gainsaid". Native vegetation was initially seen as an impediment to progress. It was subject to wholesale removal and was in many cases irreplaceable. It wasn't until the Wheatbelt towns assumed an air of permanency in the 1950's, with the development of transport systems, that the importance of the native vegetation was realised. At about this time, farmers actually began purchasing trees from Brockway's Nurseries to grow on their properties (Brockway 1962). Despite this change in attitude, Brockway found that many areas of trees that had been heavily grazed by sheep or cattle were incapable of regeneration. He therefore continued to recommend the nonrelease of remnant Crown land for agriculture purposes, and for the proper reservation of these areas.

Some of these areas had substantial stands of valuable mallet. They became the first reserves. Other areas were reserved for

future mallet growing. However, with the decline of the tanning industry in 1965, mallet sowing was suspended and the areas re-valued for the mallet on them rather than their potential for planting. Brockway (1965) explained that "If reserves are to be held under native vegetation it is desirable that they should be areas in which native vegetation, if managed conservatively, will provide some return and also on land which has the lowest agriculture potential. No one can deny that the areas reserved for mallet measure up to these requirements". The reservation of mallet areas was an attempt to preserve native vegetation and at the same time gain a financial return.

Finally, during the early years, areas were reserved from farming under the vague term of "Settlers Use". It was from these areas that farm timber and firewood were taken. Many of these reserves were close to townsite or main roads. After the timber has been removed the areas continued to be held because of their strategic value. These reserves often became valuable public utilities released for town expansion, camping/caravan sites or divided for roads. Reserves were also held because of water supplies and deposits of gravel.

After World War II applications for alienation of reserved land increased and Brockway continued to argue against further release of Crown land. On the whole he was sceptical of applications for land, believing the acquisition of additional land was really for a property selling point rather than increased productivity. The development of techniques for light land cultivation further increased the demand for Crown land by enabling farming on sandy soils previously regarded as useless. There were thousands of applications for the release of reserve adjoining private farming property either for the land itself, the construction of roads and access, or the movement of stock.

Demands for the release of reserved area remained unabated, whilst many of the original reasons for reservation had expired. In an attempt to maintain the areas, Brockway suggested that all reserves be examined by the Fauna Protection Advisory Committee before being opened to the Public so that the reserves could be considered from their flora and fauna aspect. With this shifting emphasis Brockway became concerned with the continuity of reserves, believing fragmentation could have a fatal effect on fauna survival by impeding their movement. "It became a matter of not just dealing with reserves piecemeal but rather treating each continuous areas as a whole", he wrote (Brockway 1965). This necessarily implied that some areas would remain reserved in order to provide geographic continuity.

By the late 1960s and early 1970s there was a growing scientific and community interest in conservation. From this stemmed the transfer of numerous old timber and public utility reserves to Nature Reserves as they are today, and improved security from alienation.

George Brockway was foremost a conservationist displaying a genuine concern for the vegetation of the Wheatbelt. He was fully aware of the impact of agricultural cultivation on the rare and fragile ecosystem of the arid zones. The removal of the natural vegetation had repercussions not only on the soil, causing erosion and

salinity, but also interfered with the complex biological systems that depended on native flora. The Reserve system was a form of protection and it was largely through Brockway's concern that this protection was maintained and the original flora and fauna of the central Wheatbelt area is represented in the system of Nature Reserves we have today.

#### REFERENCE

- BROCKWAY, G.E. 1958. Advice to New Settlers P1. File No. 011479 F3003 53 folio 163: Believed to be partially based on W.E. Woods 1929 paper "Increase of Salt in Soils and Streams following the Destruction of Native Vegetation". *Journal of Royal Society of W.A.* Vol 10, P. 35-47.
- BROCKWAY, G.E. 1962. Tree Establishment in the Wheatbelt. ABC Talks by Brockway. File 002078 F 0819 folio 120.
- BROCKWAY, G.E. 1965. Re Portion of Reserve 18856. P2 File 010245 F2735 folios 20 & 21.

#### FROM FIELD AND STUDY

**Crested Grebe on Rottnest Island** — On 8 June 1987 at 1100 hrs I recorded an immature Crested Grebe (*Podiceps cristatus*) on Lighthouse Swamp. This species has not previously been recorded on Rottnest Island. A north-easterly storm two days previously may have blown it over from the mainland.

— SHIRLEY LONEY, 11/645 Hay Street, Jolimont, W.A., 6014.

**Notes on a clutch of Monitor (*Varanus caudolineatus*) eggs** — *Varanus caudolineatus* is a small arboreal monitor (up to 32 cm long) which is distributed through the western arid and semi arid regions of Western Australia (Lizards of Western Australia II. Dragons and Monitors, Storr, Smith and Johnstone). On 23 October 1986 a gravid specimen was collected (Western Australian Museum R 96679) from under bark on a fence post among mallee, *Acacia* and *Callitris* on reddish loam 17 km WNW of Wandina homestead. It was kept in a terrarium with about 10 cm of soil and fed on skinks *Hemiergis initialis* and geckos *Phyllodactylus marmoratus*.

The following observations were made:

- 12 November Oviposition apparently imminent. Weight of subject 37.0 g.
- 19 November Subject digging shallow (2-3 cm) exploratory burrows.
- 20 November Four eggs laid on surface of soil overnight. Dimensions of eggs 3.0 g, 18.3 x 11.9 mm; 3.3 g, 19.4 x 11.8 mm; 3.0 g, 18.0 x 12.0 mm; 3.1 g, 19.7 x 12.0 mm. Total weight of eggs 12.4 g.

Weight of subject after oviposition 28 g.

I buried the eggs several centimetres deep but they failed to develop.

— L.A. SMITH, Western Australian Museum, Francis Street, Perth 6000